

**Subpart 3931—Plans of Development and Exploration Plans****§ 3931.10 Exploration plans and plans of development for mining and in situ operations.**

(a) The POD must provide for reasonable protection and reclamation of the environment and the protection and diligent development of the oil shale resources in the lease.

(b) The operator must submit to the proper BLM office an exploration plan or POD describing in detail the proposed exploration, testing, development, or mining operations to be conducted. Exploration plans or PODs must be consistent with the requirements of the lease or exploration license and protect nonmineral resources and provide for the reclamation of the lands affected by the operations on Federal lease(s) or exploration license(s). All PODs and exploration plans must be submitted to the proper BLM office.

(c) The lessee or operator must submit 3 copies of the POD to the proper BLM office or submit it in an acceptable electronic format. Contact the proper BLM office for detailed information on submitting copies electronically (see § 3931.40 for submission of exploration plans).

(d) The BLM will consult with any other Federal, state, or local agencies involved and review the plan. The BLM may require additional information or changes in the plan before approving it. If the BLM denies the plan, it will set forth why it was denied.

(e) All development and exploration activities must comply with the BLM-approved POD or exploration plan.

(f) Activities under §§ 3931.11 and 3931.40, other than casual use, may not begin until appropriate NEPA analysis is completed and the BLM approves an exploration plan or POD.

**§ 3931.11 Content of plan of development.**

The POD must contain, at a minimum, the following:

(a) Names, addresses, and telephone numbers of those responsible for operations to be conducted under the approved plan and to whom notices and orders are to be delivered, names and

addresses of Federal oil shale lessees and corresponding Federal lease serial numbers, and names and addresses of surface and mineral owners of record, if other than the United States;

(b) A general description of geologic conditions and mineral resources within the area where mining is to be conducted, including appropriate maps;

(c) A copy of a suitable map or aerial photograph showing the topography, the area covered by each lease, the name and location of major topographic and cultural features;

(d) A statement of proposed methods of operation and development, including the following items as appropriate:

(1) A description detailing the extraction technology to be used;

(2) The equipment to be used in development and extraction;

(3) The proposed access roads;

(4) The size, location, and schematics of all structures, facilities, and lined or unlined pits to be built;

(5) The stripping ratios, development sequence, and schedule;

(6) The number of acres in the Federal lease(s) or license(s) to be affected;

(7) Comprehensive well design and procedure for drilling, casing, cementing, testing, stimulation, clean-up, completion, and production, for all drilled well types, including those used for heating, freezing, and disposal;

(8) A description of the methods and means to protect and monitor all aquifers;

(9) Surveyed well location plats or project-wide well location plats;

(10) A description of the measurement and handling of produced fluids, including the anticipated production rates and estimated recovery factors;

(11) A description of the methods used to dispose of and control mining waste; and

(12) A description/discussion of the controls that the operator will use to protect the public, including identification of:

(i) Essential operations, personnel, and health and safety precautions;

(ii) Programs and plans for noxious gas control (hydrogen sulfide, ammonia, etc.);

(iii) Well control procedures;

(iv) Temporary abandonment procedures; and

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(v) Plans to address spills, leaks, venting, and flaring;

(e) An estimate of the quantity and quality of the oil shale resources;

(f) An explanation of how MER of the resource will be achieved for each Federal lease;

(g) Appropriate maps and cross sections showing:

(1) Federal lease boundaries and serial numbers;

(2) Surface ownership and boundaries;

(3) Locations of any existing and abandoned mines and existing oil and gas well (including well bore trajectories) and water well locations, including well bore trajectories;

(4) Typical geological structure cross sections;

(5) Location of shafts or mining entries, strip pits, waste dumps, retort facilities, and surface facilities;

(6) Typical mining or in situ development sequence, with appropriate timeframes;

(h) A narrative addressing the environmental aspects of the proposed mine or in situ operation, including at a minimum, the following:

(1) An estimate of the quantity of water to be used and pollutants that may enter any receiving waters;

(2) A design for the necessary impoundment, treatment, control, or injection of all produced water, runoff water, and drainage from workings; and

(3) A description of measures to be taken to prevent or control fire, soil erosion, subsidence, pollution of surface and ground water, pollution of air, damage to fish or wildlife or other natural resources, and hazards to public health and safety;

(i) A reclamation plan and schedule for all Federal lease(s) or exploration license(s) that details all reclamation activities necessary to fulfill the requirements of § 3931.20;

(j) The method of abandonment of operations on Federal lease(s) and exploration license(s) proposed to protect the unmined recoverable reserves and other resources, including:

(1) The method proposed to fill in, fence, or close all surface openings that are hazardous to people or animals; and

(2) For in situ operations, a description of the method and materials to be

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used to plug all abandoned development or production wells; and

(k) Any additional information that the BLM determines is necessary for analysis or approval of the POD.

### § 3931.20 Reclamation.

(a) The operator or lessee must restore the disturbed lands to their pre-mining or pre-exploration use or to a higher use agreed to by the BLM and the lessee.

(b) The operator must reclaim the area disturbed by taking reasonable measures to prevent or control onsite and offsite damage to lands and resources.

(c) Reclamation includes, but is not limited to:

(1) Measures to control erosion, landslides, and water runoff;

(2) Measures to isolate, remove, or control toxic materials;

(3) Reshaping the area disturbed, application of the topsoil, and re-vegetation of disturbed areas, where reasonably practicable; and

(4) Rehabilitation of fisheries and wildlife habitat.

(d) The operator or lessee must substantially fill in, fence, protect, or close all surface openings, subsidence holes, surface excavations, or workings which are a hazard to people or animals. These protected areas must be maintained in a secure condition during the term of the lease or exploration license. During reclamation, but before abandonment of operations, all openings, including water discharge points, must be closed to the BLM's satisfaction. For in situ operations, all drilled holes must be plugged and abandoned, as required by the approved plan.

(e) The operator or lessee must reclaim or protect surface areas no longer needed for operations as contemporaneously as possible as required by the approved plan.

### § 3931.30 Suspension of operations and production.

(a) The BLM may, in the interest of conservation, agree to a suspension of lease operations and production. Applications by lessees for suspensions of operations and production must be filed in duplicate in the proper BLM office and must explain why it is in the